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ABSTRACT

The present examination shows that the classification scheme of the Library of Congress (LC) must be considered as unsuited for use in Danish and, in all likelihood, other non-English language libraries as well. The book collection of the Library of Congress on which its bibliographical service rests, is possibly more special than would first be imagined. As far as the classifying process is concerned, LC is unsuited for systematizing on various levels, including simplification for use in open shelving. Neither is it immediately amenable to other types of adaptation required for non-Anglo-American libraries for language reasons. LC does not have the same receptiveness and flexibility to enable the user to use different paths of access to the same literature and at the same time afford purposeful browsing. It lacks firm structural principles which certainly can lead the classifier and to the correct place. (Author/MF)

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REPORT NO. 10:

LOCAL APPLICABILITY OF THE LIBRARY OF CONGRESS CLASSIFICATION

A Survey with Special Reference to Non-Anglo-American Libraries

by Kjeld Birket-Smith

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EDITORIAL

The present study by K. Birket-Smith on "Local Applicability of the Library of Congress Classification" appraises the LC classification from a particular point of view, namely that of Non-Anglo-American Libraries. The paper brings forward considerations not dealt with before so explicitly. One of them is the difficulty posed by the socalled "topical cutters" in countries where English is not the native language. Another is the question raised on the possible effect of the "National Cataloging and Acquisition Program". Moreover, the review of the numerous comments on the LC system is handled in a new way, and as it seems, a useful one. It should be noticed that everywhere when the word "preclassified" occurs in the text, it means LC-classified.

On the background of the widespread and increased interest in the LC classification, and the revival of comparative considerations, especially as regards DC and LC, raised by the MARC project, it is hoped that the publication of this report may be welcomed by the subscribers to the FID/CR Report Series.

Rasmus Mölgaard'H

LOCAL APPLICABILITY OF THE LIBRARY OF CONGRESS CLASSIFICATION

A Survey with Special Reference to Non-Anglo-American Libraries

by Kjeld Birket-Smith

Research Librarian at Odense University Library, Denmark

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PREFACE

The basis for the present dissertation is a report which I presented in 1967 for internal use at Odense University Library. As the survey in its original form hardly deserved notice in wider professional circles, the text in this second edition has been revised and considerably expanded.

A certain narrowness in the extent of the material has unfortunately been a factor; thus, with one exception, views are lacking concerning the applicability of the Library of Congress' classification in parts of the world where English is not the language used. It is my hope that the opinions herein may nonetheless be considered as representative and covering the conclusion led to by my study.

I wish to express my gratitude to Mr. R. S. Angell and staff-members at the Subject Cataloging Division of the Library of Congress for their valuable comments.

Moreover, thanks are due to several Danish colleagues for their assistance and interest, especially Mr. R. Mölgaard-Hansen, Danish Centre for Documentation, and Mr. Mogens Weitemeyer, The Royal Library of Denmark.

The Author

INTRODUCTION

The classification system of the Library of Congress is an impressive work, which has major significance for the library field all over the world. It must therefore figure centrally in the considerations of any new academic library concerning introducing ready-made rules for its systematic cataloging.

If an attempt is to be made to evaluate the Library of Congress Classification (in the following abbreviated to LC) without personally having worked with the system over a long period of time, the criticism must consist primarily of a rendering of others' opinions, to the extent that these can be found in the literature available. The present collection of material was completed in January, 1969.

Considering the work of the highly qualified experts connected with LC and particularly of all the excellent results of this, the author does not feel competent to give any general evaluation of the system. But my impression is that the classification is not suited either to a Danish or to any other research library outside of the English-speaking world.

FUNDAMENTAL PRINCIPLES OF THE SYSTEM

It seems correct to choose a starting point for a description of LC in the statements given by the founders of the system themselves concerning their aims and principles. The driving force in the work, which as is known had its beginning around the turn of the century, when the Library moved to new, large buildings, was Herbert Putnam, whose intentions (cf. Sayers, 1955; Immroth, 1968) were, first, to arrange the books in question on the shelves in an elastic order, which permitted addition of new books to the already existing groups, and, second, to mark each volume with a "self-explanatory" and precisely locative symbol.

Thus the systematizing of quite specific books preceded the notation. There was no direct question of subjects, let alone "thought units" in the modern sense, but of books. The entire collection of the Library of Congress' then nearly one million volumes was taken into consideration and it can thus be determined that the basis for the classification was of a purely practical nature, as concerns both motivation and preparation.

The system was laid down for the Library of Congress alone without taking into account whether other institutions also would use it. The work was therefore carried out in accordance with the Library's own conditions, including the needs of its users, the nature of the book holdings, and the expected size and character of accession.

It was assumed that the Library would keep its departmental organization and corresponding arrangement of separate book collections, and that the holdings for historical and political and social sciences would become especially extensive. At the same time it was presumed that the users would have freer access to the books than had earlier been the case.

ORGANIZATION OF THE SYSTEM's EXECUTION

The system was thus universally laid out, but in its construction aimed at a particular library, which was to continue operating. From this followed a series of decisions concerning its organization of continually current importance. While the responsibility for the common lines of direction was placed on a specific man, the planning of the individual classes was left to specialists in the bibliography of the various subject areas. In accordance with the make-up of the library, each class came to appear as a unit for itself gradually as the classes became ready for use in the departments in question.

At the same time consequences were taken of the acknowledgment of the fact that any classification system, however good, can first show its ability to function through years of use. The form of publication chosen gave technically and economically reasonable possibilities for revision according to need. In consideration of the desirability of fast utilization of the results achieved, it was decided not to put off publication of the individual parts until the unknown time when all parts would be finished, even though the final result in that case would have been a more coherent system. Every printed class was supplied with all the necessary surveys, outlines, auxiliary tables and indexes for use without taking other classes into consideration.

The collaborators had constantly in view the practical library use. Experience of how users factually asked for and utilized the books was decisive in determining the placings. From this followed, for one thing, that the material was divided up into partly varying formal, geographical and chronological groups within the various classes; secondly, that the system would have to become extensive when a broadly inclusive book collection on this basis was to be made available for a large number of highly qualified users.

THE ORDER OF THE CLASSES

Compared with Cutter's system, which on a number of points provided a pattern for the LC system, this shows practical advantages by in an appropriate way grouping together a number of related subjects (cf. Sayers, 1955). This applies to the order of music, fine arts, and literature as well as geography, anthropology, sports, and amusements. It is also useful that medicine and agriculture serve as links between science and technology.

STRUCTURE OF THE INDIVIDUAL CLASSES

During the forming of the outlines, support was found in existing divisions in other classification systems and systematic surveys as well as special treatments of the subjects concerned, thus both the deductive and inductive methods.

In the case of divergence between scientific and library concerns, the library view was favored. Having in mind the Library of Congress' function as a political library, a primarily geographical rather than a chronological-subject location was made where possible, excepting as concerned such internationally oriented areas as science and technology. Under each continent nations were in most cases placed by nation, though in some cases under the recognized group designation (the Balkans, Scandinavia) to which they belong. All large "national" subjects within political, social, and a number of other subjects could therefore be found together under the respective nation by the American members of Congress.

In most cases the subjects are presented in such a way that one goes from the general to the specific, as far as possible in a logical order, otherwise in alphabetical order.

First come the formal groups, consisting of periodicals, collected works, encyclopedias, dictionaries and the like. After this, material about the theory and philosophy of the subject, followed by treatments of its history and development. The fourth group contains treatises and general presentations, while the fifth section comprises the legal aspects of the subject and its relations to state and other authorities. In the sixth group will be found literature concerning the study of and teaching in the subject beyond the elementary stages (elementary teaching is collected in Class L: Education). The seventh and last group contains presentations of single

aspects of the subject or parts of this.

THE EXTENT OF THE SYSTEM AND THE CONTENTS OF THE CLASSES

The Library of Congress as a whole contains approximately six million classified volumes, as well as about one million volumes of as yet unclassified legal literature, which will in the future be contained in Class K, that for a number of years has been under preparation. The present 20 classes are published in 29 individual schedules. The schedules belonging to the groups are (inclusive of outlines, auxiliary tables and indexes) of about a total of 8500 pages. As concerns the book collections belonging to these, the largest groups are those of social and political sciences with a total of one and a half million volumes. After this come history and education, respectively, which together contain more than one million volumes.

This is not the place to give a detailed characteristic of the individual classes. Space permits only a condensed rendering of the descriptions of expert authors. In addition, reference is made to the attached schedule over the classes.

A General Works - Polygraphy is a class the contents of which are almost exclusively determined by the types of publication registered. Within this, however, is also included general history of knowledge and learning, probably because these are considered as superior in rank to the following areas of knowledge.

B Philosophy and Religion are difficult subjects to systematize due to both content and form. As a result of their abstract character, they do not easily fit into a practical grouping. In addition to this, the works of a number of philosophers are known only as a part of larger works by more than one author. In LC, therefore, it was decided to take

the individual philosophers as a grouping principle within a combined chronological and geographical arrangement. Classification of scientific subjects is used only in the group General Works. Psychology is considered a part of philosophy.

C/G History and Geography. Among the auxiliaries of history are considered numismatics, epigraphy, heraldry, and biography to the extent that the last-named does not illustrate a specific subject either collectively or individually.. Biographies which thus illustrate a subject are placed under that subject. (e.g. HF 5810 Advertising. Biography: collective; individual.)

Geography is classed in G with the exception of topical geography, e.g., economic geography in HC, HD, and HF; geography of transportation in HE; medical geography in RA; military in UA, etc.

H/L Social Sciences are worked out carefully in finely divided schedules which permit minute classification. Within these are placed, among others, economic history and economic geography, which are held to form a group together, as well as statistics.

M/P Art, Language and Literature. LC's classification of Music (M) is considered one of the most detailed that exists for this subject. Nonetheless works belonging to this group can be named which, in spite of the general nature of their content, are difficult to classify.

The schedules for language and literature (P/PN) are probably the most finely divided in the whole system. To begin with are general philology and linguistics, followed by Greek language, Latin language and Greek literature, Latin literature. The classical sections, in which are registered authors down to the very minor and works down to even fragments, are

especially full, so that 20 pages with fine print can be found on Aristotle alone.

The same as applies for the classical literature is also true in the case of the modern European literatures of lesser extent (Celtic, Hungarian, Finnish, etc.) and dialect literatures as well as Slavic and Oriental literatures, in that these are placed right after the language groups concerned in PB to PM. On the other hand, the major and more important modern literatures (English and American, German, French, etc.) are collected in PN to PT, separated from the corresponding language classes in PC to PF. Besides this, English-language fiction (including translations to English of these) as well as certain juvenile books are separated into a special class.

With exception of those just named and a single other exception (the subject English Renaissance), location according to literary genre is not used as a primary principle. On the other hand, the individual authors are enumerated alphabetically within the period of time (century) to which they belong.

Under each author, the order is usually 1) Collected and selected writings in the original language; 2) Translations of such; 3) Individual works in the original language; 4) Translations of such; 5) Bibliography and criticism.

Within each of these groups, the order is usually 1) Novels and short stories; 2) Essays; 3) Poems and 4) Plays.

Q/R Science and Medicine. The arrangement of science follows Dewey to a great extent, as far as the order of the main subjects is concerned. Class Q is one of the smallest classes of the system in spite of the absence of common subdivisions, and it has - compared with for instance UDC, wide, often alphabetical grouping. Geographical and chronological divisions are used to a lesser extent than in the humanities. General biol-

ogy is subordinate to natural history.

R Medicine appears, after a thorough revision in 1952, clearly set up and detailed enough for use in general studies.

T Technology is in a practically usable way divided into four main sections, within which similar ordering principles are followed as for the sciences. The last of the main sections, a "composite" group, seems to be less well defined.

Z Bibliography and Library Science, for technical reasons one of the first classes to be established, contains all of LC's bibliographical material, as opposed to for example biographical and legal presentations of a subject, which, as mentioned earlier, will be found under the subject as such.
The term library science is taken here in an unusually comprehensive meaning. In the category belonging hereto, one can find such various subjects as palaeography, calligraphy, typewriting, and (part of) stenography.

CLASSES AND SUBCLASSES

The number of subclasses is found to be slightly more than 200, representing an average of about 10 per main class. The number is unequally distributed, with, for instance, 19 subclasses in D History and 18 in P Language and Literature, as compared with none in either E and F America or Z Bibliography and Library Science. Behind this uneven distribution seems to be a consideration of the Library of Congress' collections.
No category has been added to the schedules unless specific books have made it necessary.

In order to carry the variations in the schedules which follow as a result of this, several repetitions in the ordering are useful. These naturally increase the scope of the system,

especially in places where "national" groupings are applied.

In contrast to this, certain space-saving measures have been taken. The main schedules do not always contain the detailed subdivisions of the subjects at the places in the system where they would immediately belong. Instead, cross-references are found in the main schedules either to the auxiliary tables at the end of the book, where common groupings for several related subjects are given, or to other places in the main schedule, from which the pattern is to be taken. Such cross-references, which are numerous within the historical and literary subjects, also facilitate a surveying of the main schedules concerned.

NOTATION

Complete notation of a work in the Library of Congress consists of two parts: for classes the so-called external, and for the contents of classes the so-called internal notation.

The main classes are designated by capital letters, the subclasses usually by two letters. Exceptions are classes E, F, and Z, in which only one letter is used; and K, in which most subclasses are going to have three-letter designations.

For each subject area there is reserved a greater or lesser number of whole numbers. The number of reservations in the original schedules was dependent on a previous calculation of the size of the book holding in the area concerned in connection with an evaluation of the extent of the expected accession. A number of unutilized spaces in the number series were left for later use. Decimals were not used to indicate subordination, but are only later introduced as auxiliary measures for increasing the amount of applicable spaces in the system.

The internal notation for the order of the books within the individual groups consist of alpha-numeric symbols which represent a greatly simplified version of Cutter's system of book numbers. As the groups arranged are generally small, the long numbers

of the Cutter system are unnecessary. The Cutter-numbers are used not only by alphabetical arrangement of books according to author and title, but also in another way. They are used partly to determine the notation for self-contained subjects, countries, and place names, etc., which are placed alphabetically under the same number, and partly in a somewhat varying form for grouping of government publications and other corporative writings.

The class indication and book number comprise together the precisely locative symbol of the work, its call number, which distinguishes it from all others. (See Appendix 1).

FUTURE DEVELOPMENT

Part of a long-range evaluation of the applicability of LC ought to be an attempt to evaluate how the system is expected to develop in the future. Certain lines of direction for this were given in 1964 by Richard S. Angell, then head of the Subject Cataloging Division at the Library of Congress.

Mr. Angell seems to be convinced that the Library of Congress, in spite of a possible later introduction of computer data processing within the foreseeable future, will continue its traditional cataloging as well. In the study some years ago by an interdepartmental committee on certain problems of managing the Library's collections and access to them, even those who believed that the general collections should be managed henceforth on a fixed-location basis were not willing to forego the concept of retaining a relatively-ordered basic collection.

The basis for LC is, as we in the preceding have found, the enumeration principle (cf. p. 13). Angell is of course familiar with the library dogma according to which a system built up in this way is unsuited to modern information searching. At the same time, however, he points out the possibilities for cer-

tain adaptations according to the modern "synthetic" systems, from which some connecting symbols and other auxiliary characters probably could be taken. The system is thus, in principle, amenable to changes. It is also open to growth and to the inclusion of new subjects.

Five main classes can without difficulty be established by the introduction of the letters of the alphabet heretofore bypassed (W, X and Y as well as I and O, which, however, are exposed to confusion with J and zero, respectively).

The method adopted in setting up subordinate categories has been discussed above. The possibility attached to this of expansion by use of lower-case letters (Sayers, 1955) does not seem to be used in practice.

The possibilities existing for revision are administratively made use of by the Library of Congress through constant supplementings and adjustments of the system concurrently with the growth of the book stock. Pages with additions and corrections to the system are published quarterly through the government printing office and are later incorporated into new, revised editions of the schedules.

In addition to what might be termed daily revision work, the Library of Congress is in the process of solving major projects of a similar nature.

One of the most extensive jobs has to do with the establishement of law as an independent class. Legal and related material were earlier distributed among the subjects registered (cf. p. 8). As this policy proved, however, to have a number of unfortunate consequences, jurists and Library staff came to an agreement in 1949 concerning the basis for the class in question and began work on it a couple of years later. The United States' own legal literature is now placed in Class KF.
Along with the publication of the legal schedule, efforts will be made to publish the long-awaited general index. This will

undoubtedly appear not only as a cumulation of the present indexes which belong to each class and are particularly thorough but also with the necessary cross-references among the classes.

The work will, it is to be hoped, be completed with a manual for use of the system. The importance of such instructive material is great, perhaps greatest for foreign users. It will become still greater when taking into consideration the enumeration principle ordinarily used in connection with a number of now outdated locations. While waiting for the official work, Immroth's "Guide to Library of Congress Classification" (1968) is especially useful.

Besides these supplements to the system, such adjustments and amendments take place as the development in itself has made necessary. Regardless of the fact that every cataloging system as a result of its registering nature always is secondary in relation to the creative science and art, it may be correct to assume that such a practically arranged system as LC, in spite of constant revision, is comparatively quickly threatened by obsolescence. The price for letting the consideration of the present material be decisive for the construction of the system is radical changes in this, when it has been determined with certainty that the conditions have changed character.

It has been mentioned elsewhere (cf. p.51), that certain parts of LC, among others within the literary subjects, are based on an evaluation of the importance of the literatures and authors concerned. The general cultural development has since implied that a number of the results achieved hereby must be taken up for new appraisal. Seen both from an American standpoint and from the standpoint of the countries concerned, which the Library of Congress to an increasing degree must take into consideration, it is a fact that the major Slavic and Asiatic states no longer can rightly be considered as minor literature areas. (See Appendix 2a).

Constant changes in the world political scene have caused that the LC schedules in various fields no longer mirror

actual conditions. The geographical make-up of the system and to a certain extent the historical divisions connected therewith must be updated as well. A revision of the Asiatic schedules has been begun.

The different fields of learning are in constant movement in relation to one another. Old connections are loosened between subjects, and new combinations are created. As concerns LC, this development has involved obsolescence of a large number of locations - to the detriment not only of the subject in question, but also of border-line fields and related subjects, among which up-to-date relationships cannot at present appear.

It is an impediment for modern research that psychology in LC still has its traditional position under philosophy, and that topography is considered a part of history rather than of geography. The same situation applies to statistics and economic history, which nowadays are not considered as belonging under the social sciences and geography, respectively, but under mathematics and history. In addition there is the subordination of biology, which modern scientists consider to be a basic discipline which deserves an independent location (cf. p. 11).

Within the individual subjects themselves as well, research activity will sooner or later create a need for changes in the corresponding classifications. The only class which up until now has allowed for such a dynamic area as natural science must soon be found to be too narrow. Moreover, there is a growing need for revision of such classes as, for instance, America's history and bibliography.

Finally, it must be emphasized that the expansion of science in itself can result in the appearance of entirely new disciplines. Air travel and space research, which appear spread out in different places in LC, are examples of this, not to mention the literature which the future will bring concerning the nature of foreign planets.

The above survey of LC's future is largely based on Angell's

presentation of 1964. A couple of years later (1966 and 1967), John W. Cronin, who up until 1968 was the director for the Processing Department of the Library of Congress, gave an explanation in a couple of periodical articles of the Library's plans concerning considerably increased book acquisitions and enlarged cataloging service. According to a law passed a short time earlier, it now rests on the Library of Congress, first, insofar as possible to procure all book material that currently is published all over the world, to the extent that this is considered to be of scientific value; secondly, to make available catalog information on this material for the public as soon as possible after it has been received, as well as to issue bibliographic information about this to other American libraries. The law thus permitted the Library of Congress in the future to perform a unique service to the other academic libraries in the country. Previously, university libraries in the United States could count on printed LC cards for only slightly more than half of their annual acquisitions.

In order to reach this high goal, the Library of Congress is in the process of making agreements concerning purchases with a large number of publication centers in the world. The first step in this development was an agreement of cooperation with the editorship of the British National Bibliography. Later followed agreements with Norwegian, Austrian, West German and French institutions.

Underlying this increased service is the principle of cooperative cataloging. The titles will for the most part be reproduced in the form given by the national bibliography of the country in question. The subject cataloging in the Library of Congress takes place with the book in hand. Choice and form of author, subject word and notation will continue to follow Library of Congress' current practice. The process will be accelerated as much as can be permitted by the appropriation of funds available. The goal will be to have the printed catalog cards ready one month after the receipt of the books.

OPINIONS ABOUT LC

In the preceding, the conditions and construction of LC as well as its structure and expected development have been presented on the basis of the treatment of the subject by a number of specialists. Up to this point it has not been the intention to accentuate the advantages and disadvantages of the system, nor to extract any current judgment of these. Now it will be appropriate to give an account of the conclusions which selected commentators have drawn in this connection.

LaMontagne.

We begin with LaMontagne, who in his work on American library classification (1961) affords LC an exhaustive discussion, which has created the basis for the historical part of the present report. The presentation of the author has perspectives also toward the future, in which it is his conviction that the major shortcomings of the system will be improved. As such he enumerates what we have discussed earlier in reference to his colleague in the Library of Congress, Richard S. Angell. LaMontagne, on the contrary, does not indicate a clear standpoint towards the principal weaknesses of the system named by both parties.

LaMontagne's conclusion is of a general nature. He points on the one hand to the major difficulty which meets every classification system, that is to say the problematical relation between growth and need for space. A book collection in regular growth for the benefit of its users constantly demands more thorough and larger catalogs for its best possible utilization. But the growing scope of the catalogs makes them in themselves more difficult to use, survey, and find space for. As an opposite to such thorough catalogs, the author indicates the consciously imperfectly arranged system. In its completed form, this is a better thing for the users than a copious but fragmentary catalog work. A simple wind shield gives better protection against the weather than drawings for a castle.

Between these two opposite points lie the practical solu-

tions which most systems are able to offer. Human knowledge cannot be grouped integrally in a hierarchical order and no distributing criteria be chosen which are absolutely exclusive. Every system must be judged according to its relative success in consideration to its goals and means. Seen from this standpoint, LaMontagne accepts LC.

With this relativity as a starting point, we can estimate the evaluations that have been made of the system, going from the praising through the neutral to the critical appraisals.

Roberts.

On the wing of thbse expressing satisfaction with LC we find one of LaMontagne's colleagues at the Library of Congress, M. A. Roberts, who (1929, according to Margaret Mann) has spoken enthusiastically about the work. As a result of his conviction that in it there has not been left a single human activity unnoticed, the author attributes to the schedules both that flexibility and those other forms of practical usability the presence of which critics of the system doubt.

Sayers.

Herwick Sayers (1954 and 1955) is on the same level though with certain reservations. He alleges that those who have worked with the system for years find it satisfactory and practical, and for this reason, as well as in consideration of the great, proven work results in practice, he is inclined to consider criticism of the system as being contentious.

As an introduction, the author praises the order of the subjects in LC as compared with Cutter's arrangement (cf. p. 7). As far as the often-debated scope of the schedules is concerned, he believes that he can prove that the major part of the numerous parallel placings and repetitions in the schedules are not a hindrance in the use of them, but rather a necessity in consideration of the intended minute classification.

With a view to the notation, the author must admit that it has rightfully been criticized for lacking ability to clearly illustrate the hierarchical coherence of the schedules.

Sayers concludes that the system is excellent for use in the Library of Congress, but that, of other libraries, only the large ones could be expected to benefit by adopting it.

In what we might term the middle group of opinions concerning LC are found the views expressed by Angell, Margaret Mann and J. Mills, appearing with balanced consideration of advantages and disadvantages. This is true especially of the first-mentioned, in spite of his personal affiliation with the Library of Congress.

Margaret Mann.

Miss Mann, (1943) names the strong and weak aspects of LC, putting the emphasis on its merits. Among these are first and foremost the pre-cataloged catalog cards and regularly published addition and correction pages. The Library's service on this point and the updating of the schedules is ensured in two ways: both by the fact that the production of these takes place in a large, growing institution, and by the fact that the printing is taken care of by the government.

The high technical standard of the system is made secure by the cooperation of excellent classifiers. The result is, among other things, a wealth of valuable bibliographic information.

It further increases the usefulness of the system that the various classes are published as independent units which can be brought into use at different places in the library at the same time, and that an alphabetical subject word catalog can be used as an index. As a technical advantage, the author mentions the elasticity of the notation.

The weaknesses of the system are given a shorter reference, divided into four points. A manual for use and a common index are lacking, the notation is without mnemotechnical traits, and the schedules have such a colossal scope.

Miss Mann's final conclusion is almost equivalent to that of Sayers, that a large library probably will find LC more satisfactory than a smaller library, unless the book collection of the latter is limited to a specific area.

Mills.

In Jack Mills' statement (1960) it is stressed that the detailed divisions of the schedules generally are well in keeping with the subjects concerned, although certain inconsistencies can be found, and groups are often alphabetically rather than systematically arranged.

The more fine divisions applied in some but not in all classes permit minute classification in the places concerned. Notation has reasonable shortness, though its possibility for being expanded without becoming clumsy is limited.

The dominance of the enumeration principle without synthesis implies that the schedules - in spite of voluminous scope - lack the desirable hospitality. On this basis, Mills concludes that LC, while a highly effective tool in the service of the Library of Congress, cannot claim to universality in same sense as systems such as UDC.

After having presented those in favor and neutral commentators, we come now to the critics of the system, who are represented by H.E. Bliss and S.R. Ranganathan.

Bliss.

In his work on the libraries' organization of human knowledge (1939), Bliss has made of LC an object for a profound and well documented treatment. Space here permits only a summary representation of the major thoughts of the author.

LC receives all respect as far as concerns the size of the work carried out and the bibliographical information provided thereby. But in the main, according to Bliss' opinion, the system must be considered so unscientific in its basic structure, erro-

neously built up and uneconomical in use, that other institutions must be advised not to adopt it.

Of his theoretical views, Bliss infers that a classification system ought to rest upon logical subordination and uniform division. The system that will prove itself to be most effective in use and most satisfying for its users is that which to the greatest degree possible is in accordance with the order of nature, the systematics of science, and the needs of teaching.

From a technical point of view, the demands of the author are first and foremost dictated by economical concerns. He presumes, for one thing, that the system chosen must be clear in structure and scope, and for another thing, that the possibilities of the notation are utilized evenly and without exceeding 3 to 4 signs in each individual notation. Only in this way will a system be arrived at that is easy and economical to work with.

Bliss specifies his demands more closely as concerns the systematizing of language and literary material. In his opinion, first, language and literature should be kept together. Many language textbooks contain literary texts as illustrative material. All literature serves as an example for the teaching of language. Secondly, alternative placing possibilities are necessary when the same system is used in different libraries. Thirdly, the individual authors ought to be arranged in classes and grouped within these on the basis of some few simple criteria.

With these premises Bliss draws his conslusions concerning the value of LC.

He finds the order of classes and other main groups unscientific, resulting in inappropriate separations and antiquated groupings. The schedules are full of errors and lacks. To adjust them in accordance with the rightly held expections of the users is just as difficult as to make them fit into modern systematics of knowledge. This would demand not only corrections but a re-working from the foundations up.

Concerning notation, Bliss feels that two weaknesses are

decisive in making it uneconomical. First, it is unreasonably long (a notation of up to 8 or even more signs is not unusual) because only slightly more than one-third of its alphabetical basis is utilized. Second, the 140,000 spaces or pigeon-holes in the schedules, which the form of notation has brought about, make the schedules difficult to survey. This number of groups is nearly 3 times as big as even the largest libraries may be expected to need. The result is that the schedules are weighted down by various confusing repetitions without cross-references and apparently unintentional double placings.

In the face of all these drawbacks in LC remains the fact, as Bliss himself sets forth, that many librarians are inclined to accept the system, partly because a better one neither exists nor has been published; partly and especially because the central cataloging activity carried out by the Library of Congress is an economical advantage for the other institutions availing themselves of it.

As part of his examination of LC the author will not enter into any comparative evaluation of the systems available, and will not, therefore, deal with the first of the arguments named above. On the other hand, his view comes clearly to expression as regards the latter motivation for a possible adoption of the system. The unceasing revision of the schedules, which is necessary in order that a library other than the Library of Congress can fulfill its local requirements, will demand an effort which makes the theoretically possible economical gain in adoption very doubtful.

Bliss thinks therefore that the adoption of such a faulty, complicated system as LC should be avoided and, instead, that one's own classification be established according to simple rules that can be made more detailed if the need arises.

Ranganathan.

In his major treatise dealing with choice of classification system (1968), S.R.Ranganathan affords LC a short discussion. As a whole, the classification shows signs of subjective work, which is not helpful when the result, as in this instance, is a mixture of

various people's estimates without having an objective basis in common. This origin of LC becomes apparent first and foremost in the lack of guiding principles for its construction and application. For instance, there are no rules for choice of class number nor for the way in which the order of elements in complex subject groups is to be decided. LC's integral, stiff notation which - due to personal animosity in the management of the Library of Congress at that time - was not determined by the use of decimals, ended by destroying what otherwise might have become the best classification system in the world, supported by the pooled resources of a government which has an unusually friendly attitude toward libraries. It is too late to introduce leading principles in LC as it is now, but the consequences of the catastrophe can still be ameliorated, if the Library of Congress will make use of all results of classification theory and revise the notation and the organization of the system in accordance with these.

PRACTICAL EXPERIENCES WITH LC

In the above, a number of typical evaluations of the Library of Congress' classification system have been rendered, grouped according to each author's basic attitude toward the subject. A reader wishing to have the survey supplemented briefly is referred to Maurice Tauber and Edith Wise's textbook on classification systems (1961). A scientific study of American utilization of LC sppeared the same year, by Alèthia A. L. Hoage (later married name Phinazee) in her well-documented dissertation. The author's main results are reproduced as follows in "Dissertation Abstracts":

> "The findings of this study indicate that the characteristics that facilitate the use of the Classification outnumber those that hinder its application in libraries in the United States. It was rated highest for comprehensiveness, practicality and up-to-dateness. All of its special features were considered useful although some of the librarians considered the parenthetic numbers and "general special" category of little value. A majority of the classifiers re-

ported that a comprehensive index and more assistance in interpreting the schedules are needed."

Results corresponding to Miss Hoage's were reached by Maurice F. Tauber by the examination of the use of LC in the United States, on which he made a report at the Institute on the Use of the Library of Congress Classification in New York in 1967. In reply to a questionnaire, the majority of 87 libraries expressed to a great extent satisfaction with LC. Some reported specific problems, but there was little doubt but that the advantages in cataloging and classifying with LC far outweighed the difficulties involved with it. There was however agreement in dissatisfaction with the lack of a general index and of sufficient detailed instructions for use.

In the foregoing references of the present discussion, the more theoretical evaluations have been emphasized. In this section we will look at the results of some practical experiences with LC made in different libraries during the 1960's.

First Daniel Gore is discussed as a representative for LC's apparently uncritical supporters. Then follows Phyllis Richmond, and, as non-Americans, the Danes, Mogens Weitemeyer and Alfred Tiedje as spokesmen for those librarians who are more moderately inclined toward the system. For the third group will be found the totally rejecting views of Jean M. Perreault. Finally we will let William J. Welsh, who, as assistant head of the Library of Congress Processing Department, has greater experience than most others, detail some of the factual circumstances of and consequences of a possible transition to LC.

Gore (and versus him Mathilda Brugh O'Bryant).

One of the strongest recommendations of LC that has appeared during recent years is expressed by Daniel Gore, especially through his three periodical articles (1964-65) on the subject of expenses in cataloging and classification. Gore's positive evaluation rests upon practical experiments and economical considerations, made at his own library.

His thesis has two aspects, partly that costs with these processes in many places are absurdly high, partly that, in LC is found one of the world's best classification systems, which ought to be made use of in any case in all academic libraries of the United States.

When the cataloging of a book under the present circumstances often costs just as much as the book itself, it is a matter of waste of public means to such an extent that the American library profession is in danger of earning the contempt of the public which it is intended to serve.

But it is the author's personal experience that these expenses can be reduced tremendously, at least in the case of subject cataloging, and he even claims that, concerning the systematic cataloging, any classification is in general ignored by the users. The size of running expenses must therefore be decisive in determining which classification is to be chosen. Moreover, it must be clear that any shelving will be imperfect taking into consideration the fact that it is impossible to place a given book in more than one place, while many books deal with more than a single subject. Attempts to find the ideal shelving are fruitless and ought to be avoided.

In LC exists an excellent classification system and a readily accessible centralized cataloging service which many American libraries, oddly enough, decline to use or do not use in the correct way. It is a mystery to the author why Dewey's decimal classification is still so widespread in the United States, when it provably is so much more expensive to use. The author's own investigations have shown that it is a question of a difference in favor of LC of on the average 34 cents per book. Neither can Gore understand why libraries that use LC often waste a lot of time in checking the catalog information that they receive from the Library of Congress.

It is the conclusion of the author that LC ought to be applied to so great an extent and in so unmeditative and routine a manner as is at all possible. The money saved on frivolous cataloging processes can suitably be used for extra book purchases.

Daniel Gore has been refuted by Mathilda Brugh O'Bryant, whose assertion (1965) also is based upon practical work with LC. The author has two reasons for questioning the value of Gore's conclusion. She expresses doubt concerning the savings to be had in recataloging old material from Dewey to LC and asserts that it is impossible, at any rate for a new research library, to apply LC in the routine way that Gore recommends.

According to Mrs. Brugh O'Bryant, a large academic library can seldom get printed LC cards for more than about one-half of the running accession. The remaining part, which the library in question thus must treat itself, grows along with the number of titles from other countries. When the work thus takes place locally as well as centrally, conflicts will often arise between the usual practice of the Library of Congress and the needs and traditions of the receiving library. The author has found especially many of that type of problems in the categories of serials and fiction. An exhaustive work is necessary to solve questions of this type, especially as concerns fitting of LC-call numbers into local conditions. All in all, this makes the application of LC considerably more expensive than believed by Gore, even when a competent staff handles the work.

In various articles, Gore has given sharp, well-defined expressions of what he seems to consider as his library colleagues' ossified conservatism and poor administration. One of these, from the spring of 1966, is directed toward American university teachers and even carries the title "The Mismanagement of College Libraries." In this article, in speaking of classification costs, he again claims that it costs one penny to place a book according to LC, but $0.35 according to Dewey. This means that, in a book collection of 100,000 books classified according to Dewey, it would have been possible to save $34,000 by using LC instead.

In a reply to Mrs. O'Bryant, Gore modifies somewhat his earlier statements and at the same time he explains his case more in detail. He makes clear that the saving of 34 times by classifying according to LC instead of DC is not intended to be taken as an absolutely applicable average number, but that it only applies to a book

stock of about one million volumes, treated according to LC, in comparison to what a corresponding Dewey classification would have cost. He now states that "the savings one might expect from the use of LC classification could be computed by multiplying the total number of books acquired by thirty-four cents, and further multiplying this sum by the percentage of suitable cataloging available for the books acquired."

Gore further maintains that the local library ought always to scrutinize the possible needs for its own changes in LC in the cold light of efficiency. Entirely too often, expected improvements turn out to be just the opposite. If such testing is made continuously, then the actually necessary changes in the system will be so few that clerks can be taught to manage the preclassified material.

Phyllis Richmond (and versus her Jean Perreault).

Mrs. Richmond has in two places recently made clear her views on LC. The first time was in her lecture at the above-mentioned Institute on the Use of the Library of Congress Classification (1966) and later in a short letter to "Library Journal", published in the October number of the same year. Charles C. Bead and Robert R. Holmes have restated the content of the lecture, as did Nathalie C. Batts, and later, its full text was included in the "Proceedings"of the Institute. Phyllis Richmond, as we shortly shall see, has been refuted by Jean M. Perreault.

As the most important weaknesses of LC, Mrs. Richmond named in her lecture the well-known lack of an index and manual, and thereafter the spreading of various aspects of the same subject in a multitude of schedules as well as the resultant antiquating of some of these, especially within science and technology. Finally, she found it to be a disadvantage that LC is unsuited for "purposeful browsing."

However, according to the author, these weaknesses are outweighed by the considerable possibilities of application in LC and its abilities for growth, enlargement and revision at the moment as well as during a future automatic classification. The most important ad-

vantage of LC - which, according to Mrs. Richmond, is a system rather than a classification - is that it covers a growing flow of knowledge without "cracking at the seams". This is made possible by the fact that LC's hospitality is to so little extent limited by the hierarchy of a logically constructed system.

Phyllis Richmond expressed her conviction that many and sufficient reasons exist for changing from Dewey, for instance, to LC, but at the same time, as she expressed in her letter to Library Journal, finds it alarming that so many libraries make the switch without sufficient advance deliberation. If one is reluctant to follow Dewey in the many changes from edition to edition, one ought to consider the fact that many current changes keep taking place in LC, and heaven help anyone who does not keep up with them. If one is reluctant to make the many relocations which are the result of Dewey's changes, one ought to remember that in LC there are sometimes made such changes that they make Dewey's look like "kid stuff." And if one imagines that it is possible to take LC call numbers right off the cards without checking, then only one comment is suitable: "Ha, ha!"

Jean M. Perreault shares fully Phyllis Richmond's concern about the consequences of switching to LC, but he is quite at odds with her point of view in judging the classification. He has understood it to be Mrs. Richmond's major argument for, after all, using LC, that it is flexible, since it is unsystematic, and usable, because one does not need to look for a subject where it ought to be, but simply find it where it is. In other words, he says: "the proof of the pudding is in the eating": LC works. Perreault finds this argument selfdestructive because it postulates a complete lack of detectable - and even more important of predictable - arrangement in LC. Perreault does not find it so bad, however. Perreault's view will be gone into in more detail in the following (cf. p. 35).

Weitemeyer and Tiedje.

Within the Danish library field, some experiments were

made in 1967 with comparative classifying of book titles according to DC, UDC, and LC. The studies were aimed at a possible introduction of one of the systems at the Odense University Library. The experiments were made by Mogens Weitemeyer and Alfred Tiedje and a report of them was made for internal use in duplicated form. Their discussions of LC are reproduced here by permission of the authors.

The humanities were concentrated on, and three subject areas were chosen, from which the titles were taken, while the books themselves were left out of consideration. Two historical groups were selected first: history of religion (65 titles) as well as archaeology and ancient history (85 titles). Since history figures as an aspect in all subjects, it has particular classification interest. As a third group Danish language history was used because of the wish to see how a national subject would be placed in international systems. As concern the 75 titles in this group, the time available was too short for placings in LC. DC and UDC were therefore exclusively used.

Besides the placings, Weitemeyer and Tiedje wished a comparison between the schedules for literature and history of literature, which experience has shown are difficult classes. The authors chose to make a copy of the schedules for the important area of English literature, to which DC and LC, due to their origins, are especially related. On the whole, despite the limited size of the material, considerations were taken to a reasonable degree both internationally and nationally. In conclusion, the characteristics of the classifications were set up as shown here on table 2.

Taking into consideration the practical goals of the project, an appreciable part of the report was its documentation, including lists indicating the placings in the schedules, with notes, which space does not permit our going into here. Neither will we include the descriptive portions of the authors' commentaries, which seem to be especially intended for readers who are not already conversant with the structure of LC and the two other classifications, among other things the remarks on the above-mentioned schedules for English literature. We will also refrain from including a chronolog-

ical account of the report, and instead will attempt to arrive at a survey over the authors' general impression and appraisal of LC.

The placements were aimed at trying out the receptiveness of the systems. The classifiers found it easy to place a title somewhere in LC, but point out that its structure can give rise to some doubt as to the correctness of the location chosen. The cause lies in one of LC's most basic weaknesses that at an early stage considering the exhaustiveness of the classification, it often abandons the systematic arrangement and lists the subjects in alphabetical order. The difficulties resulting from this are increased by the fact that, in general, LC assumes only a single location per title, and does not suggest the hospitality toward double placings which might be expected of a relatively free system with subject distribution. The consequences of this double weakness are felt in many areas.

Among the effects are named the reduced possibilities of bringing the schedules up to date by introducing new subject combinations in the classification through double placings which would be a natural procedure where systematic notation is kept apart from place notation.

The problems in placements of general historical works are also pointed out. The alphabetical subject listings, which are sometimes used here, can be of such a mixed content that it completely removes the value of the schedules as classification. History is closely connected with geography, the inserted topographical cultural areas of which - that must be looked up in the index - at some places seem doubtful in the limitations and accidental in the locations they are assigned in the schedules.
Further, it is mentioned with especial consideration of Danish conditions, that the alphabetical placing rules hamper the choice of subject words and use of the preclassified material, e.g. the call number numbers supplied on LC printed cards. When the choice of subject word can give rise to doubt even in the national language, then the doubt will increase when American names are to be applied. In addition, the Cutter-numbered part of the preclassified material in itself presumes use of American subject words.

As concerns the unfoldings of the schedules, which was occasioned by the study, it was primarily the intention to try out the hierarchical structure of the system against the actual title distribution in the groups. It was found in connection with the placements within the history of religion that fewer spaces were used in LC than in DC or UDC. On the other hand, LC was found to have a large number of empty spaces several of which bore no notation, but which were necessary in the hierarchical construction.

From the empty spaces we now go further, to the question of LC's receptivity to shortenings. Such operations would present various difficulties; this is true when conditions in the local book stock would make shortenings desirable as well as when arrangement on open shelves would make simplified groups preferable. In the first case, shortenings can take place only by deciding which groups are to be used for classification, and deleting the others. But it would - at the time of possible later enlargements - make necessary a new revision of all parts affected in the schedules. With a view to the open book arrangement, LC can be shortened only by using the alphabetical notations alone. But, like possible markings of numbered groups that are telescoped together, these are suitable for use on range guides and on guide cards, but not for individual notation.

As is made plain by the previous, Weitemeyer and Tiedje, on the background of their practical work, have expressed themselves specially on the classifying activity. As concerns the daily use of the classification otherwise, they speak briefly about the arrangement of the systematic card catalogue with a view to guide cards and subject words.

They express doubt about the possibility of letting guide cards in the card catalogue be instructive in the hierarchical construction of the system. Experiences from the placings of history of religion indicate that a close concentration of guide cards will spoil the over-all view. Instead, the schedules could be allowed to function as systematic keys and the indexes as alphabetical keys. However, this would delay use by the necessity of many double searchings.

The authors have in this connection stressed a dependence on the indexes, that revert to the problems around choice of subject words. These are questions that have significance for the general use of the system as well. On the other hand, mastery of American is a condition for full use of the indexes. But the authors rightly mention that it would lead to strange results to let the national subjects be distributed according to a foreign language. On the other hand, introduction of Danish subject words alone would complicate the application of the indexes, just as it would hinder use of some of the preclassified material.

In their concluding remarks, Weitemeyer and Tiedje characterize LC in comparison with the two other classifications. The Library of Congress system is judged to be a very prompt aid, which seems immediately attractive, if, in the course of short time, a great number of cards are to be placed. The advantages of LC are probably due to the fact that so much of the apparatus of the system is ready in advance, and particularly its exhaustive indexes. On the other hand, the schedules can neither be called clear nor easily accessible, and, in practice, deliberations about shortenings, subject words and the like, will in all probability delay the use of the classification quite a lot.

On the basis of supplementary remarks from Mogens Weitemeyer to this author, we can summarize the case by saying that LC is relatively easy to apply as far as the indexes go, but that it is difficult if they leave the user in the lurch.

As concerns the final evaluation of LC, DC and UDC, both authors make it clear that none of the classifications attempts to be completely in tune with present-day systematics of learning, and they sigh along with the venerable bibliographer E.-G. Peignot: "Jusqu'à ce moment, on ne connaît aucun système bibliographique parfait, et peut-être est-il impossible d'atteindre à cette perfection désirée." Weitemeyer and Tiedje also emphasize that the scattered experiences of their study call for taking their conclusions with some degree of caution. After making these reservations the authors put Library of Congress' classification in a middle posi-

tion. In their opinion, it is better than Dewey but less satisfactory than the Universal Decimal Classification, UDC.

Weitemeyer and Tiedje's study is alone among this group of references in representing non-Anglo-American works. A perusal of such exhaustive reference works as "Library Literature" and "Library Science Abstracts" has not brought the author onto the trail of others. If the readers of this article could aid me on this point, information would be gratefully received.

Perreault

In this section the emphasis until now has been on practical experiences with LC. In the case of the American, Jean M. Perreault, these are fused with his theoretical considerations. The result, which is a total rejection of LC as usable classification for other libraries, corresponds to Bliss' depreciation of the system as discussed in the previous section. In 1967, in a significant dissertation, Perreault delivered a criticism of LC that was as penetrating and devestating as that of his great predecessor. A periodical article from around the same time by Perreault can serve as a summarizing of his views and will be rendered after the following account of his larger paper.

Perreault finds LC extremely open to attack, and neither is he very sympathetic towards Dewey, which, as will be known, is the other commonly used system in America. Instead, he recommends use of - and if possible cooperative cataloging with - UDC. He is horrified at the thought of reclassifying to LC. The galloping tendency toward this can only be due to, partly, lack of clarity concerning the goals of classification in general and the demands which the system in question as a result of these goals must fulfill and, partly, the new, expanded cataloging activity of the Library of Congress. It had not been the intention herewith to spur on the named development. But one of the consequences of this was that a number of libraries, as participators in the arrangement, now hope to be able to save energy and money for other purposes. At the same time, the present movement toward

library automation places the thought of reclassification in perspective. Automation offers so great possibilities for all libraries that they must re-evaluate their fundamental purposes in good time. Otherwise, the final result will be disastrous both as concerns rendering services and as concerns economical consumption.

The purpose of classification is to supply search strategies for documentary information. The decisive factor for the value of any system is its ability, on the idea plane, to provide a satisfactory answer to the central question in all reference work: "If we have not found precisely what we need, what do we do next?" On the notational plane, classification ought to be hospitable. A hierarchically expressive notation is desirable only for the reason that expressiveness is the condition for a methodical, and not merely an intuitive, reply to the question "what next?" The organization must be arranged in such a way that paths are indicated from the most specific idea to the next most specific - in other words, from the relevant gradually to the non-relevant. As relevances can be found distributed in several places, a need exists for setting up notations corresponding to any correlation implied by any document. This ability is of decisive importance for any classification at all. Conversely, any document that needs more than one notation or subject word reveals the deficiency of the system applied.

Many library people consider systematic perfection less important than an ad hoc provision of a place for everything. This attitude is right only as far as the individual person's memory can stretch. In order to supplement the human memory, codes have been developed for alphabetical cataloging and for conceptual search strategy. These codes furnish the systematic foresight which prevents piecemeal incorporation into the library's book collection from becoming a disorganized mass rather than a meaningful whole.

The ability of LC to fulfill the demands that are made is illustrated by Perreault through two examples of its functioning. One of these concerns a subject order received at an automated library, the book stock of which was classified according to LC, the other the location of a specific book in the LC schedules.

As concerns the order received, which consisted of an exhaustive literature list covering a specific subject area, two procedures were possible, i.e. consultation of, first, the classification codes, and, second, the subject headings. It appeared, however, that neither of these methods was reliable for the purpose, and that a manual total search of the catalogues was necessary for supplementing the titles found. Perreault, who undertook the study himself, had thus to find that the automation that had been made of the catalogues of the library in question had not led to any satisfactory result in the case at hand. As concerns the classification codes the reason was that the computer was unable to recognize other documents than those which were treated historically or geographically, for the subject in question, and passed over distributed relatives. As far as subject headings were concerned the case was somewhat similar. Here, the difficulty was especially that the "see also" cross-references were found to be ambiguous and not consistently organized as chains from the broadest to the narrowest concepts.

The other experiment which Perreault made with LC as well tended to reveal its deficiencies. When a current library handbook was to be placed in the schedules it appeared that this placement could not be made satisfactorily. Neither in LC nor in DC was it possible for the elements of the title and their mutual relationship to be expressed in the notations. The author later states in connection with notation that its most important job is to function as information language. Both LC and DC fall short of the demands that must be made of such a language: "Explication of homonyms, consolidation of synonyms and the establishment of rules of formation, a syntax." In LC, moreover, it is impossible to predict which of the possibly usable codes in each individual instance will be applied or is the preferred, since neither of them is exhaustive and precise.

As regards the size of LC, some people seem to have the impression that it is more specific than DC because it has more enumerated classes. Perreault replies to this that a classification's absolute extent is less important than its possibilities for synthesis. The capacity for precision that may be defined as the ability to pro-

duce codes corresponding to any correlation in any document, is the most powerful factor in the expansion of the number of possibilities for expression in language of any kind. When taking into consideration both vocabulary and syntax, LC is no more specific than UDC, although it can very likely be superior to DC in this respect. While UDC makes use of a mixed notation, which makes it possible both to express and to read different facets of a subject, LC is only able to give locative information as concerns the physical placing of the documents.

In his evaluation of LC, Perreault terms it a capital instance of a classification that is "inflexible, unstrategic and inhospitable." With this, he considers any professional reason to reclassify to LC as being inadequate. As far as any hope of economical advantage in such a reclassification is concerned, by which factor many library people at this time seem to be influenced, he finds it in principle reprehensible to let such motivations be decisive in the choice of classification. Conflicts between administrative, that is economical, and professional, considerations must always be decided to the advantage of the latter, if there is anything less than absolute proof in respect to the relevant rules that the one system is essentially better than the other.

As a survey over Perreault's classificational view and evaluation of LC, a contemporary (1967) periodical contribution which he made may be applied.

In this short piece, he states that the movement now under way in American library circles towards reclassifying to LC seems to a large extent to be due to, first, prospects of economization and, second, growing dissatisfaction with Dewey's Decimal Classification. Both are, however, of minor importance compared with the basic question of what classification is and what it is for.

Classification mirrors the thought processes and funtions by correlating ideas in such a way, that the user receives an answer to the most important question in work of this kind, i.e., "What, this first attempt having failed, next?" The value of any classi-

fication is to be determined by the following three criteria: 1) The degree to which it groups ideas so as to provide next-most-relevants; 2) its ability to make correlations equivalent to those of the documents it contains; and 3) the exactness with which these conceptual characteristics are expressed in the notation.

Perreault does not find these demands met by LC. On the contrary, he asserts, "LC, if any classification does it, shows how a classification can be built with only minimal concern for the first criterion and none at all for the second and third". To switch to LC without having recognized this, but only for achieving some possible saving, is what he terms a betrayal of everything that the library profession must stand for, the work whose most distinguished purpose is "the efficient provision of documentary relevances."

In 1968 Perreault published "A Short Sermon" for library administrators on the subject of Comparative Classification. He expresses his opinions on automation and centralization and closes the article by suggesting that the Library of Congress, which has always considered its classification a private system, be allowed to keep it.

Welsh.

Earlier, we have spoken of Angell's view of the future development of LC (cf.p. 14). Now, having had a survey over a set of evaluations of the system, it will be reasonable to let his colleague, William Welsh, round out the presentation.

Like Phyllis Richmond and Perreult, the author belongs to those who, though with different motives, have their scruples in regard to the optimism over the results of local libraries' use of LC, which has been expressed among librarians in the United States. Welsh, therefore, in a periodical article (1967), has contributed to the establishment of a more realistic viewpoint. As an employee with a high position at the Library of Congress, he finds it important that all relevant considerations about the factual circumstances and consequences of a switch to LC be made in time, so that decisions do not in the end rest on misunderstandings that later can give rise to disappointment over or displeasure with the services rendered by the Library

of Congress. His article presents a neutral and informative summing-up of the conditions similar to Angell's.

Introductorily, the author makes clear that though the Library of Congress in several ways has acknowledged its responsibility toward other libraries, it has never spoken out for making its classification more widespread nor taken steps to get it recognized as a standard. Welsh does not present a picture of the structure of the classification, so often treated elsewhere, but speaks first of its characteristics in comparison with local needs, thereafter its revision and development, and finally, some of the major arguments for the possible adoption of it.

Welsh emphasizes that the results of comparisons between LC and other classification systems most frequently have only relative value and must be judged according to what is sought to be achieved at the individual library. When LC is considered to have on the average shorter notations than DC, for instance, then it must be pointed out that a tight, precise classification is unobtainable without notations of at least a certain length. Similarly, it is necessary in consideration of the variation in the LC schedules among themselves in treatment of the subjects to keep in mind the interests of the users. The variations are an advantage to the extent to which LC's chronological and geographical subdivisions promote loaner service. To the degree that they unnecessarily complicate and enlarge the schedules, they are on the contrary a disadvantage. In certain fields in LC a distribution of subjects has been made which takes specially into consideration the conditions at Library of Congress. Location rules for subject bibliography, fiction in English and juvenile literature do not adapt themselves, thus, to being taken over by other libraries. Further, it should be remembered that the lack of a consolidated index and instructions for use of the system will continue to exist for some years.

As concerns the revision and development of the schedules, Welsh starts with still another relativity by reminding that no library can count on utilizing an up-to-date classification and at the same time resist making the current revisions necessary for main-

taining the actuality. While some library people consider it an advantage that LC is not published in such frequent new editions as Dewey, for instance, there is dissatisfaction at the Library of Congress itself on this point, and it is the intention in the future to publish thoroughly revised, rearranged editions of the schedules at shorter intervals than has been the case until now. Revisions take place in the daily service and are published quarterly. During the fiscal year 1965-66 were thus set up 2,233 new classes, while the contents of 218 others were changed.

Welsh lists five different types of revisions:

(1) Addition of a new class/sub-class for new material;
(2) Establishment of new subclasses for specific aspects of a subject;
(3) Refinement of the area of a class, with resulting partial relocation of its contents to other classes;
(4) Removal of an entire class to another place;
(5) Complete revision of the classes for a certain subject area.

With the exception of the first-mentioned type, all changes imply reclassifying, and (4) and (5) imply, further, emptying of one or more classes and deletion of the numbers concerned. These can remain standing unused for the time being, or they can be put into use right away with new meanings. As concerns the latter procedure, LC maintains no waiting time. While the revised classifications thus introduced are brought into use without delay in newly-accessioned books, it is only occasionally that corresponding reclassifying of older material is made. As a result, it cannot be assumed that there will always be agreement between the notation on older cards and the latest practice. The author exemplifies the revisions discussed on the basis of the most recent developments, and among other things, he reports that the complete revision as named under point (5) is typically brought about by decisive changes in the accession of the library in the area in question. This was recently the case for Chinese, Japanese and Korean literature at the Library of Congress.

Welsh divides the arguments in favor of adopting LC into two groups with the headings Economy and Automation. His comments

include comparison with DC. More DC class numbers are constantly being shown on LC printed cards, and the Library of Congress intends to increase this coverage in the future so as to include all current non-fiction titles in all West and East European languages.

As regards the possibility of direct use of the numbers on LC printed cards, Welsh cites an author such as Edvard G. Evans for the latter's statement (1966) that nonprofessional personnel at the library are able to handle any title which has a printed LC card and an LC classification. To this Welsh remarks that such a procedure, with resultant uncritical treatment of the cards, can be accepted only as far as current card production is concerned, but not as far as stock is concerned, where notations - as pointed out earlier - can be in disagreement with the latest practice of the Library of Congress. When also taking into consideration that the preclassified material has to be made to agree with the results of the original classification, which is done locally, then all LC shelflist notations should be checked before being put into use.

As concerns the comparative expense of original classification according to LC and DC, the author is prepared to admit the truth of the argument that the LC tables are difficult to use, and that the existing lack of general index and instructions manual further contribute to making the use of the classification expensive. Welsh has no statistical information on this subject.

In his concluding remarks about the consequences of a future automation of the work of the Library of Congress, the author emphasizes that automation should not be expected to involve substantial changes in the traditional distribution of LC-cards as heretofore. The Library of Congress' catalog product will at a future date also be made available in computer-readable form. However, adoption of the schedules will not be a necessary condition for continued use of the bibliographical service of the library.

EFFECTS OF LC's SHORTCOMINGS AND GROWTH.

We have divided the previous survey of appraisals of LC into two groups, according to the either primarily historical-theoretical or primarily practical nature of the premises of the commentators. We have seen the differing considerations united in the views of a theoretician of the format of Perreault. The fact that the last group is bigger than the first is due to several factors. For one thing, there is very little new to be found in a number of theoretical presentations, especially those of textbook character and therefore there is no reason to give them an independent account here. The examples given should be characteristic. On the other hand, during recent years a great deal of case stories have appeared in literature in the field concerning local work with LC. As a rule, practical accounts like these ought to be given attention; it is in daily service that any classification is brought to the test.

We have been able to ascertain conspicuous variations in the opinions about LC, both concerning the reliability of its theoretical foundation, and - especially - as concerns its practical applicability. Before attempting to weigh the various statements among themselves and in relation to the reasonable needs of local libraries, we can remove as irrelevant certain of the statements made, so as to obtain a realistic basis for an evaluation. After this, we must try to decide the probability of whether the lacks and faults of the system can be expected to be ameliorated by the Library of Congress itself as well as make an estimate of the consequences for the classification of the greatly increased accession of the Library of Congress.

An institution considering the adoption of the system cannot emphasize with great purpose the elucidation given by LaMontagne of its history. Even though the existence of LC in itself in several respects must be said to be a condition for the development of modern classification theory, it is without relevance for the final decision, why and how the classification came by its weaknesses. Unconditional praise of the classification, such as that contributed by Roberts,

may also be left out of consideration here.

The lack of general index, instruction manual and schedule for law, so often cited and admitted by the editors, can be expected to be overcome within the course of an indefinite number of years, according to statements from the direction of the Library of Congress. The question remains, then, whether this temporary lack at any place is felt forcefully enough to postpone a decision concerning adoption of the system, or perhaps to give rise to a rejection. The author has not found testimony in the literature to this effect. The next problem in this connection is to what extent the shortcomings that exist should be considered to hamper, on the one hand, the classifying process, and on the other hand, the general use of the system. Weitemeyer and Tiedje's research tends to indicate that original LC classifying can easily be done locally, as long as the indexes provide sufficient instructions. It is more probable that the shortcomings will entail a disadvantage for the public. The greater the scope of the original classifying process locally, and the more remote the staff and borrowers find themselves from the American language, upon which LC rests, as well as from American culture as a whole - the more auxiliary means will be needed in the daily use of the system.

We have seen that LC is constantly being supplemented and gradually becomes considerably more comprehensive. It seems uncertain, however, whether - and if so, when - LC as a whole will be subjected to the sweeping revision and modernization which some of its critics consider to be equally as important as the additions.

The cause for this doubt is mainly connected with what might be termed library big politics. Whatever is true of the position of power of the United States in the world is also true of the national library of the Union. The hugeness of both limits their freedom of action. As one of the greatest libraries of the world, the Library of Congress, whose classification is used by numerous other institutions, is in a triple sense forced toward conservatism in its subject cataloging, namely through the neces-

sity of taking into consideration the expenses of executing revisions in its own as well as in many local book collections with expansive stock. Opponents of LC, who consider the system out-dated, can find confirmation of their beliefs in this. Supporters of the Library of Congress' proportional slowness up until now concerning new editions of the schedules must, on the other hand, take note of the fact that this practice is soon to undergo important changes (cf. p. 41 and Appendix 2b).

For a number of years, the schedules - with for the time being only one exception - have been published in the form of reprints with supplementary pages, containing additions and changes, made since the appearance of the previous regular edition. Only in Class BL-BX Religion (2nd ed. 1962) were the results of revisions, that were carried out, worked into the text itself. As the reform means a facilitating of the use of the schedules, it must be met with satisfaction that such arrangements will be carried out in the future as well. However, two less fortunate circumstances are connected with the publications. The classes T Technology and R Medicine were re-issued in the old form of revision in the years 1965 and 1966, respectively, that is, after BL-BX. This means that in all likelihood we will come to live for a long time with at least some of the reprints. This also implies that there will be more and more new decisions to take into consideration from the official "L.C. Classification, Additions and Changes". The other condition to be taken into account in these deliberations is of a theoretical nature, that is, the question as to whether the Library of Congress' revision policy heretofore will be adequate when it is applied to schedules for subjects in which the research going on is especially intensive. Phyllis Richmond points at the out-dating of certain schedules, particularly within science and technology - but just these schedules were re-issued with revisionary supplement pages the year before she presented her statement. D.J. Foskett gave (1963) in a similar way an expression of dissatisfaction with the 1960-editing of the schedules for the social sciences. He found the foundation of the schedules, already at that time a half century old, out-dated and a number of details old-fashioned. The system lacks synthesis and the thereby resulting flexibility. It gives few possibilities

for the combination of ideas and thus does not fit into modern information searching. If Foskett's criticism is representative of that of other specialists, it would be strange if the Library of Congress itself found the editing satisfactory. For politicians, who constitute a considerable portion of the Library's clientele, the social sciences must be particularly important subjects. In any case special libraries in this and similar areas ought to be wary of introducing a ready-made classification, which is not completely up-to-date at the time of its adoption.

It would almost certainly be unrealistic to imagine LC brought into true correspondance with present-day structure of knowledge or systematized according to the principles of modern information searching. If this were to be achieved, it would not be a question of revisions but of a completely new classification. Here, another consideration of LC's applicability, especially locally, appears. The intensified acquisition efforts and enlarged cataloging service of the Library of Congress will unavoidably cause the schedules to grow greatly in scope. On the other hand, the registering itself of the increased accession will greaten the value of LC as a bibliographic tool, even though the most important advantage in this respect will accrue to the corresponding alphabetical catalog. On the other hand, there is reason to have certain reservations concerning the execution of the Library of Congress' ambitious project. In the fiscal year 1966-67 Congress granted its library less than half of the amount that experts had considered necessary for the purpose. Legal provisions for the acquisition of the scientific literature of the entire world will probably be difficult to fill right away. In spite of restrictions, the book collections of the Library of Congress are now, according to its plans, on the verge of major enlargements, and the problem then is what influence this may be expected to have on an enumerative system such as LC. If the previously applied principles in classification are expected to remain unchanged, as seems probable, the possibility of bursting the already so broad system's boundaries is heightened, which until now has been avoidable.

The present author has not been able to find statements to the effect that the direction of the Library of Congress takes this risk into account. If this actually is the case, then the renowned library will perhaps soon find itself in a serious situation. On the other hand, it strives with increased energy toward the fulfillment of its primary goal, which it has in common with other living libraries: obtaining the greatest possible amount of good literature for its borrowers. On the other hand, by maintaining at least the basic structure of its nearly seven-decades-old classification, it makes it difficult for itself to fulfill its second major aim: to make effectively available for use at any time the relevant part of that literature.

Of course, it is the concern of the Library of Congress itself first and foremost to evaluate and solve this problem. Local institutions must ask themselves the question whether this Library's - in other respects so praiseworthy - plans will come to weight down the classification schedules so much that these, in spite of exemplary traits, will be made unhandy to the point of unusability for other classifying than precisely the Library of Congress' alone. In local institutions, it would be wise to consider the structural weaknesses of LC as being permanent and the effects of this in certain regards as growing.

GENERAL DEMANDS ON THE LOCAL APPLICABILITY OF LC.

As a point of departure for a local evaluation, we will take the ideal demands for logical subordination and uniform subdivision as raised by Bliss (cf.p. 23). Taking issue with this view, LaMontagne has pointed out the absurdity in the idea that human knowledge can be grouped integrally in exclusive categories (cf.p. 19). Seen from this viewpoint, shortcomings of this nature in the system have real meaning only as far as they weaken its practical functioning ability. Moreover, it is not postulated by competent sources, either, that LC lives up to the demands of modern classification theory.

Not even the most refined synthetic system can be thought to be able to maintain its actuality and use value unbroken at all times, and the same naturally applies to the more old-fashioned classifications that LC represents. To claim the opposite would be tantamount to claiming that philosophers and classification theorists were able to arrive at and formulate all the questions that still have not appeared on the specialists' horizon. Over every classification rests the fate that the more quickly - by means of its efficient arrangement - it aids research, the faster it also contributes to its own antiquation.

If, in the survey covering our material about LC, we allow the theoretical demands on the classification to be subordinate to the demand for practical applicability, we will still be met with greatly diverging opinions of the value of LC. Phyllis Richmond stresses that LC functions without bursting its own seams. Daniel Gore states that it even functions excellently. But Perreault presents examples of the direct opposite and is fearful of the consequences of the increasingly wide use of the system. In order to understand this fundamental disagreement among experienced experts, we must return for a moment to the premises for their evaluations.

It is clear that Mrs. Richmond, as well as Gore, stresses decisively the course of the classifying process itself. The users, whose interest this activity is intended to serve, are not named directly by Phyllis Richmond in her statements as far as are known by this author. In Gore's case, his premise is exactly that the classification as such - and regardless of which system is applied - is ordinarily ignored by the public. He probably does assume however, tacitly, the possibility of seeking help in an alphabetical subject word index. The presence of such is not the same matter of course in other places as it is in the United States.

Perreault for his part, on the contrary, stresses heavily the excellence of classification as a working tool in the documentation service of the library toward its public. In his views can be found signs of both the idealism of Bliss and the perspicacity of

Ranganathan. It is his basic attitude that any wish for reduction of working costs should be subordinate to professional considerations and that sallow economical considerations should never be the deciding factors in the choice of the best possible classification. The reading of the relevant piece in Perreault's thesis may give the impression that he had spent his time at unlimitedly wealthy institutions, or had for some reason forgotten that public and almost certainly most private institutions, indeed as we have seen even the venerable Library of Congress, struggle with the insufficiency of their grants, and that it is therefore the great task of the library director - just as does a businessman - to weigh the desirability of the investments with the expected gain, since he merely substitutes the consideration of his own profits by that of the gain of the users. Within a given economic frame, the head of the library will be able to go along with Perreault as far as to deciding the question: What serves my public best, to buy ten out of a hundred books that are worth acquiring, and catalog and classify these according to the most thorough scientific methods, or out of the hundred obtain ninety which we then will be able to treat in a simple way only? Such a consideration must be especially relevant in newly established libraries, since the attainment of a book collection of a certain size is, after all, a condition for running any kind of documentary service. The answer is in fact:not as obvious as Perreault seems to believe. With limited resources available, the director of any library, large or small, must establish a united view of the running of the institution and arrange his policies accordingly. The classification is subject to the same conditions as other functions and may be given relatively high priority, though not create any exception from the rule. The factor that is decisively important for a satisfactory documentary service is in reality less the quality of the book collection at hand, the base of which ought to consist of bibliographies and other reference works in all relevant fields. It is rather the systematic use of such works (when necessary supplemented by loans from other libraries) that makes a good start possible in serving the public. But from this point of view, the classification

rules applied have lost their absolute importance.

If there are points of difference between Perreault's basic attitude and the working conditions at a number of libraries, a similar situation is the case for one of his examples of LC's way of working. An order like the one named, for a completely exhaustive literature list covering a specific, comprehensive subject area, can hardly be said to be a typical occurrence even in a large scientific library. Many a richly supplied institution would perhaps hesitate to accept such an order, if not for other reasons, then in order to avoid more harm than good by flooding the orderer with material.

While both Gore and Perreault thus support an active policy toward the public, there are apparent differences in their points of view. The deviation between them may perhaps be characterized by the fact that Gore stresses an efficient service of the great number of users that can be aided in the traditional manner, while the deciding factor for Perreault is whether the minority of especially demanding borrowers can also receive effective assistance.

It is on this background that we now resume our evaluation of LC. An important condition for good classificatory service to the public lies in the approaches to and connections among the different parts of the classification used, as well as the ease with which the users can approach the same literature by varying paths. LC lacks such coordination.

The outdated, if not indeed unscientific, order of classes and other main groups in this system impede to a great extent the access to relevant literature. The same thing is true of the unsatisfactorily small number of cross references among the classes within the system.

As is the case with the main structure of the system, the construction of the individual schedules is of practical importance. Earlier, we have discussed the fact that the founders of the classification began work by systematising definite books and afterwards attached precisely locational notations to these (cf.p. 5). The

systematic notation became in this way a shelf location symbol. This has made LC in several respects stiff and difficult to handle.

The stiffness is to some extent a result of the fact that the few alternative placing possibilities and differentiated paths of access to the literature greatly reduce the flexibility and receptiveness of the system. But first and foremost, the stiffness is due to the enumeration principle. The only elasticity of the groups is in that the row of titles can be extended just as the number rows can.

In addition to this, the alphabetical-numerical notation, besides lacking instructive mnemonic-technical traits, is not able to demonstrate the hierarchical structure of LC and hardly can be extended very much - at least as concerns the call numbers as a whole - without becoming clumsy, which exactly may become one of the results of the heavy growth in the accession of the Library of Congress.

In an area so important for humanistic libraries as philology one must not overlook the possibility of certain unfortunate consequences of the quantitative judgment of the authors registered, which the Library of Congress lays at the foundation of their locations in the schedules. Every writer is given a certain number of numbers corresponding to the amount of material in the library for the author concerned. This condition becomes a source of conflict, and the same is true of the distribution principle which the Library of Congress utilizes for other subjects of a similar nature. The same yardstick for the potential working usefulness and worthiness of acquisition is not used in all places of the world. On the contrary, it might be found expedient to pass up some of those works that belong naturally in American libraries, and instead acquire modest writings by local authors whose names are barely known outside their own countries. The quantitative appraisal, which decides parts of arrangements in LC, becomes in effect a qualitative judgment that may come into disagreement with other, equally justified opinions. The opposition caused hereby may give rise to difficulties in the local classifying and disagreements between the results of it and the received,

preclassified material.

Of special importance to non-American institutions is a consideration of the alphabetical structure of the system, of which English-speaking commentators have but little cause to take special note. Here it is a question of the disadvantages sometimes entailed in understanding and translating subject words. Bliss cites a number of unclear definitions, and Mills names the possibility of misunderstanding due to variations between American and English usage. The number of interpretation questions is multiplied in non-English-language institutions, where in addition there are translating problems.

Possible placings according to American subject words alone would complicate the application of LC for foreign users without sufficient language skills. If these skills are lacking, little help will be had in the forthcoming instruction manual for the use of the system and the general index, the absence of which until now has cost even the country's own citizens delays. Mixed arrangement according to partially American and partially national-language subject words would present obstructive irregularities in the classification product. On the other hand, switching over to the national language entirely would prevent the institution's satisfactorily utilizing the index and preclassified material.

Taken together, these factors can probably contribute to making foreign libraries hesitate in reclassifying to LC. It will be interesting to see the result of the experiment with the system, that according to Dr. F.G. Kaltwasser's information at the meeting in the International Federation of Library Associations, August 1968, has begun at Deutsche Forschungsgemeinschaft.

We have earlier discussed the Library of Congress' relation toward its own improvements in the system. Now, we will consider the question as to which corresponding means can be brought into use locally. In many cases, minor adjustments will almost certainly be able to be carried out without difficulties worth mentioning. On the contrary, it is rather doubtful whether the same is

true of real revisions. Such changes in fact call for the presence in the local library of a set of auxiliary aids which no institution having the system under consideration possesses. These consist of a representative book collection, instructively classified according to the same rules, with the presystematized cards belonging thereto, as well as instructions for use and shelf list, paradoxically just that which comprises the result of long, continuous work with LC. The shelf list just named is by no means the least important part of the apparatus, since, according to LaMontagne, among other things it gives information on the aspects of and the relationships among the subjects which are searched for in vain in the schedules.

In addition, we have still to evaluate the prospects of successfully introducing several alternative placing possibilities and making desirable simplifications. In general, they are secondary in relation to the basic plan of the system, according to which the Library of Congress' own needs were, of course, first and foremost considered.

The groups for language and literature should relatively easily be able to be brought together. An author like LaMontagne points out the existence of alternative placing possibilities within the subject Classical Philology, but must otherwise admit that most deliberations of this type have appeared in letters and not been published. This robs them of their immediate value for others who are interested. The possibility of a growing number of alternative locations will undoubtedly be opened in future editions of the system. The intensified international cooperation of the Library of Congress makes such measures unavoidably necessary. But to oppose the regulations to any greater extent locally could, in LaMontagne's opinion, have fateful consequences for the use value of the classification.

Contractions in LC are not officially prescribed as is the case with DC. Local libraries with limited subject areas naturally disregard irrelevant schedules. In the relevant classes, consolidation can only take place through the selection of definite groups. If it is desired to make use of preclassified cards at the same time,

possibly including author and book numbers, then inconsistencies in the product must be avoided as far as possible.

The preparation of the simplified rules - as is the case with other deviations from the LC norm - demands considerable reflection both as concerns execution and especially as concerns the necessity of making them. The continued efficiency of all changes introduced must constantly be subject to checking. In the same way, it is necessary to foresee the extra work that possible later expansions will bring about.

However, this is not to say that shortenings are impossible to carry out locally. Before the Second World War, according to Immroth, instructions were made available for this, designed for school and small college libraries. At one of the oldest of the last-mentioned category, a simplification of LC was successfully undertaken during the War. Harold H. Boisen, its librarian, has reported (1944) concerning the course of the operation. The Bunting Library at Washington College, Maryland, had at that time a book collection of 15,000 titles, all classified exactly according to the rules prescribed. The weight of the great apparatus was found more and more burdensome, and the results of the classifying inexpedient. The schedules were therefore resolutely reduced and the books arranged in a new and more easily surveyable order. The prunings were drastic: from 6700 to a total of 70 pages.

More recently, Betsey Rovelstad's "Condensation of the Library of Congress M Classification" (1953) is found among others. It was reprinted 10 years later at the request of the American Music Library Association. (According to LaMontagne, 1961).

In principle, it ought to be considered doubtful whether it is advisable to make one's own alterations in a finished classifications system once this has finally been accepted in its entirety in the library. A surer means of approach would be to clarify for oneself in advance the conditions for its introduction.

First, it is necessary to foresee the consequences of the

fact that a classification, which, like LC, has its origins in a specific book collection, according to its nature has to primarily take into account the structure and enlargement of this collection. William J. Welsh, in his article as earlier discussed, has himself indirectly presented an example of this. According to his account, the Library of Congress has acknowledged that the distributions made of the subjects in the schedules in certain cases are not well suited to being adopted by local libraries. But no mention is given as to whether a change in the distribution rules for that reason has been contemplated. It would seem reasonable to assume that these will be maintained as long as they continue to serve the aims of the Library of Congress itself best. The often-noted lack of instructions for correct use of the system, which as Welsh says will continue to be a lack for some years yet, can be understood in a similar way. That this important tool, though lacking for more than a generation, still is not available, is a factor that presents growing disadvantages during the more widespread application of the classification. But it appears doubtful whether the Library of Congress, which naturally has its own internal directives to adhere to, intends to hurry the preparation of the instructions material for the sake of local use.

Second, it is necessary to conform to the conditions that local classifying rules not only, as mentioned earlier, give the institution in question extra work, but later may perhaps appear to be superfluous and even detrimental. The use by a number of libraries of the same classification corresponds to the goal of other types of cooperation: to save energy for productive activity, which the participating members previously used in a fruitless manner to individually solve identical or nearly identical problems. In this can also be found the reason for the fact that the Library of Congress, in the newly established exchange of bibliographical data, accepts descriptive cataloging done in foreign countries.
As a matter of fact, the idea of cooperative cataloging is not new. As far back as 1876, it was presented anonymously in the English "Academy" (cf. Molley, 1966).

Local alterations in classification are a potential threat to the very idea of cooperative classifying. A library that is not very heedful in this respect may after some years find itself in the situation that, unintentionally, it has to go on operating with a home-made system, which is not superior to the original, but which costs much more to continue.

Institutions in other than English-speaking countries, which for obvious reasons are more remote from the American library milieu, probably ought to be especially heedful and avoid making major changes in LC except after prior consultation with the Library of Congress.

SPECIAL DEMANDS ON THE LOCAL APPLICABILITY OF LC

In addition to those difficulties that would generally be connected with use of LC in local libraries, there is the factor of possible special conditions of a traditional or other nature at the institution in question. That which is time-honored often plays a large role in older libraries. The best components of the traditions live on as stimuli in the daily course of work. H.O. Lange, a leading figure in the Danish library world around 1900, had this in mind when he wrote (1912) his urging words to beginners in the profession: "As a rule it will be the case with young people entering into work at a major library, who really have their heart in their work, that they will before long feel that there is a great deal that could be done better otherwise, and which easily could be reformed. Only gradually will they fully understand the extent of the meaning of traditions and continuity in a large library. They will understand the difficulties of making radical changes on single points, when the balance and the continuity are thereby disturbed." As regards other traditions, it must be honestly admitted that some of them are kept alive due to a lack of over-all survey and the power to execute reforms. As a general rule in old, well-established libraries, there must be especially weighty reasons

for embarking on such a revolutionizing project as is a new classification project. Pressing circumstances existed, for example, at the big Cornell University Library, when in 1948 a reclassification of as many as 825,000 volumes was undertaken from a local system to LC (cf. Reichmann, 1962). On the other hand, in newly established libraries, one is often found to be under pressure from impatient borrowers, on the one hand, and the insufficiency of the aids, on the other hand. Only seldom do the granting authorities lay down such long-range plans that service organs like libraries are allowed peace to work on an undisturbed construction phase, in which may be made the preparations to give the public qualified assistance.

Denmark's traditional liberality as concerns serving users of various categories presents research librarians, especially with great tasks to perform. In principle, there is equal access for all to publicly-owned book collections. The difference between the academic and the general public libraries lies more in the character of their respective holdings than in the clientele who use them.

Under such conditions, new research libraries may find that they not only must refrain from building up a classification system themselves - The Royal Library in Copenhagen uses its own classifications - but also to cut down in advance on the theoretical demands of the rules selected, which in other places it is possible to fulfill. On the other hand, it is of fundamental importance that the system in the broadest sense is economical to work with and gives good access to the perhaps still small collections of the library.

CONCLUSION.

The present examination has shown that the classification of the Library of Congress must be considered as unsuited for use in Danish and in all likelihood other non-English language libraries as well. For a number of reasons, it is uncertain how great benefit foreign libraries will have from the preclassified material. The book collection of the Library of Congress, on which its bibliographical service rests, is possibly more special than would first be

imagined. Surveys have been made that indicate great differences between the book collections of some of the largest libraries in the world, even surprising differences between such similar institutions as the Library of Congress and the British Museum (cf. Knud Larsen, 1959). In the case of the Library of Congress, this distinctiveness is undoubtedly a contributing cause to the fact that, until recently, it was possible to supply printed LC-cards for only slightly more than one-half of the annual accession of the American university libraries. The international cooperation begun between the Library of Congress and its partners has as its primary object a national reform, to cover this need at other academic libraries in the United States. As the possibilities for the same savings in running costs in using LC are not present outside the U.S., as they are within the country's borders, there is less reason to look away from the drawbacks of the system and to introduce it for economical reasons.

Foreign libraries would, in the case of adoption of LC, find themselves faced with an extensive original classifying, which surely would meet with various stumbling blocks. In the first place, as a rule, due to its own size and systematics, LC is rather unsuited for local book collections of a limited extent or of special content. In the second place, the schedules are even now quite difficult to survey and they may even as time goes by become quite unwieldy. Furthermore, the difficulties of fitting the system into local needs will be increased to a greater extent in relation to the degree to which cultural conditions in the country and at the institution in question vary from those in America.

As far as the classifying process is concerned, LC is unsuited to systematizing on various levels, including simplification for use for arranging books on open shelves. Neither is it immediately receptive to other types of adaptation, to which category belongs what might be wished to undertake at non-Anglo-American libraries for language reasons. The work with the placings would often give rise to doubt, particularly as long as an official instructions manual does not provide information on precedence.

Daily use of the classification, as well, will meet with difficulties, since every doubt about where in the system a title is to be placed, reappears when the book in question later is to be found for use. This is of course particularly the case when users who are unacquainted with the system try to find works by themselves. What is more important, certain attempts point out that finding of books can be difficult, sometimes impossible, even when the placings are considered as having been made without problems. The experiences of Perreault with a subject order at a library with automated LC-classification indicate this. The same applies to older experiments made with traditional methods (cf. Grace O. Kelley, 1938). LC does not have the same receptiveness and flexibility which make certain of differing paths of access to the same literature and at the same time afford the user the possibility of purposeful browsing. It lacks firm structural principles which with certainty can lead the classifier and the user to the correct place. On the other hand, it must be recognized that it may be precisely this loose systematics that is the reason for the Library of Congress' classification having survived and developed over so many years, and that it undoubtedly will exist far into the future.

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Table 1.

Outline of the Library of Congress Classification (According to Sayers)

A	GENERAL WORKS. POLYGRAPHY
AC	Collections. Series. Collected works.
AE	Encyclopaedias
AG	General reference works (other than cyclopaedias)
AI	Indexes
AM	Museums
AN	Newspapers
AP	Periodicals
AS	Societies. Academies
AY	Year-books. Almanacs
	Directories (general and obsolete special)
AZ	General history of knowledge and learning
B	PHILOSOPHY. RELIGION
B-J	Philosophy
B	Collections. History. Systems
BC	Logic
BD	General Treatises. Metaphysics
	Introductions to philosophy. Treatises
	Epistemology. Theory of knowledge
	Ontology
	Cosmology. Teleology
	Philosophy of religion
BF	Psychology. Metapsychology. Physical Research. Occult Sciences
BH	Aesthetics
BJ	Ethics. Etiquette
BL-BY	Religion. Theology
BL	Religions. Mythology. Cults
BM	Judaism
BP	Mohammedanism. Bahaism. Theosophy
BR	Christianity. Generalities. Church history
BS	Bible and Exegesis
BT	Doctrinal Theology
BV	Practical Theology. Liturgies
BX	Denominations (including sectarian Church history)
C	HISTORY - AUXILIARY SCIENCES
CA	Philosophy of history
CB	History of civilization (general and general special only)
CC	Antiquities. General
CD	Archives. Diplomatics
CE	Chronology
CJ	Numismatics
CN	Epigraphy. Inscriptions
CR	Heraldry
CS	Genealogy
CT	Biography
D	HISTORY AND TOPOGRAPHY (*except America*)
D	General history
DA	Great Britain
DB	Austria-Hungary
DC	France
DD	Germany
DE	Classical antiquity
DF	Greece
DG	Italy

D	HISTORY AND TOPOGRAPHY (*except America*) - (*continued*)
DH-DJ	Netherlands
DH	401-811 Belgium
DH	901-925 Luxemburg
DJ	Holland
DK	Russia
	100-400 Russia. General
	401-438 Poland
	451-470 Finland
	751-999 Russia in Asia
DI	Scandinavia
	1-81 Scandinavia. General
	101-296 Denmark
	301-398 Iceland
	401-595 Norway
	601-996 Sweden
DP	Spain and Portugal
DQ	Switzerland
DR	Turkey and the Balkan States
DS	Asia
DT	Africa
DU	Australia and Oceania
DX	Gipsies
E-F	AMERICA
E	America (general) and United States (general)
F	United States (local) and America outside of U.S.
G	GEOGRAPHY. ANTHROPOLOGY. SPORTS
G	Geography. Voyages. Travel (general. Atlases)
GA	Mathematical and astronomical geography
GB	Physical geography
GC	Oceanology and oceanography
GF	Anthropogeography
GN	Anthropology. Somatology. Ethnology
	Ethnography (general)
	Prehistoric archaeology
GR	Folk-lore
GT	Manners and Customs. General
GV	Sports and amusements. Games
H	SOCIAL SCIENCES
H	General Works
HA	Statistics
HB	Economic Theory
HC	Economic history and Conditions. National production (by countries)
HD	Economic history. Organization and situation of agriculture and industries
	Land. Agriculture
	Corporations
	Labour
	Industries
HE	Transportation and communication
HF	Commerce, including tariff
HG	Finance
	Money
	Banking
	Credit. Exchange. Investment
	Insurance

Table 1 (Continued)

H	SOCIAL SCIENCES (*continued*)
HJ	Public finance
HM	Sociology. General and theoretical
HN	Social history. Social reform
	Social groups
HQ	Family, marriage, women
HS	Associations, secret societies, clubs, etc
HT	Communities. Urban. Rural Classes, Aristocracy, third estate, bourgeoisie, peasantry, labouring classes, proletariat, serfs. Nations. Races
HV	Social pathology. Philanthropy Charities and corrections. Criminology
HX	Socialism. Communism. Anarchism
J	POLITICAL SCIENCE
J	Documents. Official gazettes. United States. Other countries
JA	General works
JC	Theory of state
JF	Constitutional history and administration. General
JK	United States
JL	Other American states
JN	Europe
JQ	Asia, Africa, Australia and Pacific Islands
JS	Local Government
JY	Colonies and colonization. Emigration and immigration
JX	International law
K	LAW
L	EDUCATION
LA	General works. History of education
LB	Theory and practice. Educational psychology. Teaching
LC	Special forms, relations and applications
LD	Universities and colleges. United States
LE	Other American
LF	Europe
LG	Asia, Africa, Oceania
LH	University, college, and school magazines, etc
LJ	College fraternities and their publications
LT	Text-books (general only; special text-books go with their subjects, B–Z)
M	MUSIC
M	Scores
ML	Musical literature
MT	Theory and Instruction
N	FINE ARTS
N	General Works. Exhibitions and Galleries
NA	Architecture
NB	Sculpture and related arts
NC	Graphic arts in general. Drawing and design
ND	Painting
NE	Engraving
NK	Art applied to industry. Decoration and ornament

P	LANGUAGE AND LITERATURE
P	Philology and Linguistics. General
PA	Greek and Latin Philology and Literature
	1–1161 Greek language (Ancient, Mediaeval, and Modern)
	2001–2960 Latin language (Ancient, Mediaeval, and Modern)
	3000–5868 Greek literature (Ancient, Mediaeval and Modern)
	6000– Latin literature (Ancient, Mediaeval and Modern)
	MODERN EUROPEAN LANGUAGES
PB	General works, 1–500
PB	Celtic languages and literature, 1000–3029 (Irish, Gaelic, Welsh, Breton, Gallic)
PC	Romance languages (Italian, French, Spanish, Portuguese)
PD	Germanic (Teutonic) languages
	General works, 1–1000
	Scandinavian languages, 1500–5929
PE	English
PF	Dutch, 1–979
	German, 3001–5999
PG	Slavic, Lithuanian-Lettish, Albanian Languages and Literature
	Slavic: General works, 1–500
	Church Slavic and Bulgarian, 601–1198
	Serbo-Croatian, 1201–1798
	Slovenian, 1801–1998
	Russian; Ruthenian, 2001–3999
	Bohemian, 4001–5199
	Slovak, 5201–5999
	Polish, 6001–7498
	Lithuanian-Lettish, 8001–9198
	Albanian, 9500–9599
PH	Finno-Ugrian and Basque languages and literature
	Finnish, 101–498
	Lappish, 701–729
	Hungarian, 2001–3698
	Basque, 5001–5399
	ORIENTAL LANGUAGES AND LITERATURE
PJ	General works, 1–456
	Mohammedan peoples, 701–956 (Arabic, Persian, Turkish, etc)
	Egyptian; Hamitic, 1001–2591
	Semitic, 3001–9250
PK	Indo-Iranian; Indo-Aryan; Iranian, 1–7001
	Armenian, 8001–8958
	Caucasian, 9001–9500
PL	Languages and Literature of Eastern Asia, Oceania, Africa
PM	Hyperborean, American Indian, and Artificial languages
PN	LITERARY HISTORY AND LITERATURE. General works
PQ	Romance literatures (arranged as PC above)
PR	English literature
PS	American literature
PT	Teutonic literatures (arranged as PD–PF above)
PZ	Fiction and Juvenile literature

Q	SCIENCE. General
QA	Mathematics 801–999 Analytic mechanics
QB	Astronomy 281–349 Geodesy
QC	Physics, including 81–119 Weights and Measures 801–999 Terrestrial magnetism and meteorology
QD	Chemistry 901–999 Crystallography
QE	Geology *cf.* GB, GC 351–499 Mineralogy and petrology 701–999 Palaeontology
QH	Natual history 201–299 Microscopy 301–999 General Biology
QK	Botany
QL	Zoology 801–999 General anatomy and embryology
QM	Human anatomy
QP	Physiology, including 501–801 Physiological Chemistry 905–981 Experimental Pharmacology
QR	Bacteriology
R	MEDICINE
R	General Works
RA	State medicine. Documents. Public Health Medical climatology. Hospitals Jurisprudence
RB	Pathology
RC	Practice of medicine
RD	Surgery
RE	Ophthalmology
RF	Otology. Phenology. Laryngology
RG	Gynaecology and obstetrics
RJ	Paediatrics
RK	Dentistry
RL	Dermatology
RM	Therapeutics
RS	Pharmacy and materia medica
RT	Nursing
RY	Botanic, Thomsonian, and eclectic medicine
RX	Homeopathy
RZ	Miscellaneous schools and arts
S	AGRICULTURE, PLANT AND ANIMAL INDUSTRY
S	General agriculture, soils, fertilizers, farm implements, etc.
SB	General plant culture, including field crops. Horticulture. Landscape gardening and parks. Pests and diseases
SD	Forestry
SF	Animal husbandry. Veterinary medicine
SH	Fish culture and fisheries. Angling
SK	Hunting. Game protection

T	TECHNOLOGY
T	General Technology
TA-TH	BUILDING AND ENGINEERING GROUP
TA	Engineering. General. Civil engineering
TC	Hydraulic engineering (harbours, rivers, canals)
TD	Sanitary and municipal engineering
TE	Roads and pavements
TF	Railroads
TG	Bridges and roofs
TH	Building construction 9111–9600 fire prevention, fire extinction
TJ-TL	MECHANICAL GROUP
TJ	Mechanical engineering
TK	Electric engineering and industries
TL	Motor vehicles. Cycles. Aeronautics
TN-TR	CHEMICAL GROUP
TN	Mineral industries
TP	Chemical technology
TR	Photography
TS-TX	COMPOSITE GROUP
TS	Manufactures
TT	Trades
TX	Domestic science
U	MILITARY SCIENCE
U	General Works
UA	Armies. Organization and distribution
UB	Administration
UC	Maintenance and transportation
UD	Infantry
UE	Cavalry
UF	Artillery
UG	Military engineering
UH	Other services 201–655 Medical and Sanitary Service
V	NAVAL SCIENCE
V	General Works
VA	Navies. Organization and distribution
VB	Administration
VC	Maintenance
VD	Seamen
VE	Marines
VF	Ordnance
VG	Other services 100–475 Medical and Sanitary Service
VK	Navigation
VM	Shipbuilding and marine engineering
Z	BIBLIOGRAPHY AND LIBRARY SCIENCE

Table 2 Schematic Survey of Dewey's Decimal Classification, The Universal Decimal Classification and the Library of Congress Classification, (According to Weitemeyer & Tiedje).

	DC	UDC	LC
System	Universal system	Universal system	Subject catalogs with correspondence via cross-references
Structure	Hierarchical	Hierarchical (firm hierarchical schedule + construction of special subject notations within the hierarchical structure)	Hierarchical-alphabetical
Principle of Arrangement	Decimal system	Decimal system + combined constructions	Alphabetical-numerical + decimal ciphers cr Cutter-numbering
Auxiliary Tables, etc.	Auxiliary tables for the whole schedule. Subdivisions also as in other groups	Auxiliary tables for the whole system + distribution ciphers for the individual schedules	Auxiliary tables within special areas within individual subjects
Notation	Three ciphers, thereafter possibly point and row of decimals	Up to three ciphers before the point, followed by decimal ciphers. Auxiliary ciphers added by use of typographical signs (-, (.), :, etc.)	One or two upper-case letters + continuing selective row of up to four ciphers; thereafter sometimes decimals or Cutter-numbers
Role of Notation	The notation shows the hierarchical structure; the notation is thus instructive	The notation shows the hierarchical structure; the notation is thus instructive	Numbering of hierarchical-alphabetically arranged subjects. Not instructive
Shelving Notation	Shelving notation can be abbreviated in accordance with catalog notation	Shelving notation can be abbreviated in accordance with catalog notation	As simplified shelving notation the two letters can be chosen; this gives groups of unequal sizes. Alternatively: no simplified shelving notation

Table 2 (continued)

	DC	UDC	LC
Double Placing	Possibility for double placings, even though it is not intentional	The system is designed for double placings, so that any subject which according to the system and its primary distribution criteria would be scattered, can be found in the catalog, if this is deemed opportune	The system is not well suited for double placings where this is not indicated. It will, however, be possible in a few cases
Order	Firm order of subject locations with alternative suggestions	A firm order of the subject notations within the hierarchical system exists, but there is a possibility of choosing another order where this proves desirable	Determined by the continuing row of ciphers. (Alphabetical subject word is alphabetized in the index and with Cutter-numbers in English. Problem whether the order here should be changed to Danish alphabet)
Degree of Unfoldment	The hierarchical structure of the firm schedule is maintained by the addition of subdivisions from the auxiliary tables	The firm hierarchical system is supplemented by combinations of groups within the system or auxiliary tables, by which new groups are formed to the extent that they are needed	The schedule entirely unfolded with the exception of a few alphabetical groups where new subjects can be introduced. In addition, certain groups can be unfolded by use of special auxiliary tables (see above)
Index	The index is important, but not especially good	The role of the index is not great, but the quality is excellent	Excellent, exhaustive indexes for the individual schedules

Appendix 1

LIBRARY OF CONGRESS
Processing Department
Subject Cataloging Division

Author Numbers

Library of Congress call numbers consist in general of two principal elements: class number and author number, to which are added as required symbols designating a particular work and a particular book. This statement offers a brief explanation of the Library's system of author numbers, or, more properly, of assigning the symbols by which names are designated and differentiated in call numbers.

Library of Congress author symbols are composed of initial letters followed by Arabic numbers. The numbers are used decimally and are assigned on the basis of the tables given below in a manner that preserves the alphabetical order of names within a class.

1. After the initial letter S

for the second letter:	a	ch	e	h	i	m	o	p	t	u
use number:	2	3	4	5		6		7-8		9

2. After the initial letters Qu

for the third letter:	a	e	i	o	r	y
use number:	3	4	5	6	7	9

3. After other initial consonants

for second letter:	a	e	i	o	r	u
use number:	3	4	5	6	7	8

4. After initial vowels

for second letter:	b	d	l	m	n	p	r	s	t
use number:	2	3	4		5	6	7		8

Letters not included in the foregoing tables are assigned the next higher or lower number as required by previous assignments in the particular class.

The following examples illustrate the application of these tables:

1. Names beginning with the letter S:

Sabine	.S15	Seaton	.S4	Steel	.S7
Saint	.S2	Shank	.S45	Storch	.S75
Schaefer	.S3	Shipley	.S5	Sturges	.S8
Schwedel	.S35	Smith	.S6	Sullivan	.S9

2. Names beginning with the letters Qu:

Quabbe	.Q3	Quick	.Q5	Qureshi	.Q7
Queener	.Q4	Quoist	.Q6	Quynn	.Q9

3. Names beginning with other consonants:

Carter	.C3	Cinelli	.C5	Crocket	.C7
Cecil	.C4	Corbett	.C6	Croft	.C73
Childs	.C45	Cox	.C65	Cullen	.C8

4. Names beginning with vowels:

Abernathy	.A2	Ames	.A5	Arundel	.A78
Adams	.A3	Appleby	.A6	Atwater	.A87
Aldrich	.A4	Archer	.A7	Austin	.A9

Since the tables provide only a general framework for the assignment of author numbers, it should be noted that the symbol for a particular name is constant only within a single class.

Appendix 2

NOTES BY R. S. ANGELL

a. The unsoundness of the early decision on language and literature, including the designation of some as "minor", was acknowledged in my Elsinore paper. More importantly, we have prepared and published completely new and greatly expanded schedules for Chinese literature (Additions and changes No. 121, January-March 1961), Japanese literature (No. 132, October-December 1963), Korean literature (No. 142, April-June 1966). These were all incorporated in the supplement to the 1965 reprint of Class P, Subclasses PJ-PM, in which we would also call attention to the considerable revisions and expansion of provisions for Hebrew language and literature; Arabic language and literature; the languages of the Indian subcontinent; Iranian, Armenian, and Caucasian languages and literatures; and the languages of Oceania and Africa. The schedules for Russian literature in Subclass PG were to be sure published belatedly (1948, reprinted 1965) but they do not suggest that "minor" is any longer considered an appropriate characterization.

b. Mr. Welsh is speaking about an improved publication schedule that will make the extent of schedule changes more obvious and, of course, the changes themselves more useful. (It may be of interest that an expansion of the editorial staff for the schedules has made it possible to complete a revised edition of Class N (Fine Arts), which contains structural changes, as well as the additions and revisions made since the previous issue. It is scheduled for publication in August 1970. Revised editions of Class T (Technology) and Q (Science) are scheduled for 1971).

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P.O.Box 3001, Addis Abeba, Ethiopia

Mr.H.G.Körner, Institut für Datenverarbeitung, Technische Hochschule
München, 8 München 13, Franz-Joseph-Str.38, Germany

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6th issue, December 1969, price 8 Dollars (60,-D.kr.) contains:

Report No.9: Proceedings of First Seminar on UDC in a Mechanized Retrieval System, conducted by R.R.Freeman and Pauline Atherton. Copenhagen, 2.-6.september, 1968.

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